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Pension World®

The Magazine for Plan Sponsors and Investment Managers / A Publication of Communication Channels, Inc

How to Pick a Global Custodian

Directory of Master and Directed Trust Services

Twelve Questions to Ask a Money Manager

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Pension World

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Cover: **Robert C. Almanas offers guidelines for picking a global custodian in an article beginning on page 18.**

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1987 Directory of Master and Directed Trust Services

The following *Pension World* Directory is a listing of firms indicating that they offer master and/or directed trusts. It is not an exhaustive list, but rather an identification of firms that responded in full to *Pension World's* questionnaire.

During August 1987, a questionnaire was mailed to 97 U.S. and three Canadian banks and trust companies. Of the responses received, 59 indicated that they offer master and/or directed trusts. This number is larger than last year's responses (56). Our research suggests that banks which have previously made substantial commitments to the master trust business are continuing and even increasing those commitments, while few, if any, banks are starting new master trust operations.

Master Trust continues to be defined in individual ways by the banks and trust companies offering this service. A technical definition, according to several authorities in the corporate trust industry, is a trust in which *multiple* plans of the same company control or share investment experience under *one trust document*. In working terms, however, some of the definitions used for master trust include: (1) an arrangement under one trust agreement that includes multiple money managers, one of which may or may not be the trustee; (2) a pooling of one sponsor's assets, which may include multiple managers and *one* or more plans, under one trust document; or (3) a pooling of directed trusts.

Similarly, several different definitions are given to the term *directed trust*. The general definition is a trust under which the trustee has less than full managerial authority of the plan sponsor's assets. However, the term is often used synonymously with *directed portfolio*, in which a manager has the authority to direct only those investments within the particular portion of assets under his direct control; and it is sometimes associated with *general trust*, in which a separate trust agreement is written for that portion of assets under the manager's control.

Figures gleaned in the following survey are not always comparable, although *Pension World* has taken every precaution to present these data in their most accurate form. All information in the directory was provided by the banks and trust companies listed. *Pension World* appreciates the efforts of those who completed and returned the questionnaires and hopes that each year's directory will continue to be more comprehensive.

AMERICAN NATIONAL BANK & TRUST COMPANY
Fifth & Minnesota Streets
St. Paul, MN 55101
Contact: William E. Burmeister, Asst. VP, (612) 298-6274

Number of separate master trust clients: 0
Number of directed trust clients: 12
Master trust assets: 0
Directed trust assets: $50 million
Custodial employee benefit assets: $1 million
Total employee benefit assets: $130 million
Number of separate portfolios: 17
Average number of accounts per account supervisor: 9
Average number of portfolios per investment manager contact: 17
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: Federated Master Trust, Treasury bills
Date short-term interest credited: First business day of month
Timeliness of reporting package: By 10th of each month
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, index fund, guaranteed investment contract fund
Policy for crediting dividends and interest: Payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

AMERITRUST COMPANY
900 Euclid Avenue
Cleveland, OH 44101
Contact: Gary W. Queen, Sr. VP, (216) 687-4089

Number of separate master trust clients: 43
Number of directed trust clients: 15
Master trust assets: $7 billion
Directed trust assets: $359 million
Custodial employee benefit assets: 0
Total employee benefit assets: $10.8 billion
Number of separate portfolios: 97
Average number of accounts per account supervisor: 12
Average number of portfolios per investment manager contact: 25
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, actual delivery date
Fail float credit provided: Yes
Short-term instruments used: STIF, variable demand notes, T-bills, commercial paper, Eurodollar CDs, CDs & financial reserves fund
Date short-term interest credited: 5th business day
Timeliness of reporting package: 3-5 business days after month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, TUCS, Ameriscan (on-line client inquiry), investment management services
Policy for crediting dividends and interest: On payable date in good funds
Fee structure: Based on combination of asset value and individual services

BANK IV WICHITA
P.O. Box 4
Wichita, KS 67201-0004
Contact: Roger A. Ramseyer, trust marketing mgr., (316) 261-4555

Number of separate master trust clients: 1
Number of directed trust clients: 42
Master trust assets: $92 million
Directed trust assets: $169 million
Custodial employee benefit assets: $35 million
Total employee benefit assets: $235 million (not including custody, master or directed trusts)
Number of separate portfolios: 43
Average number of accounts per account supervisor: 10
Average number of portfolios per investment manager contact: 10
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: Shearson temp. fund, Shearson Treasury fund, Bank IV money market fund
Date short-term interest credited: First of each month
Timeliness of reporting package: All accounting and investment reviews mailed within 30 days following end of cycle
Services provided: Performance measurement, portfolio analysis, portfolio review, benefit disbursement
Policy for crediting dividends and interest: On payable date plus one; direct participant with Depository Trust Co.
Fee structure: Based on individual services performed

BANK OF AMERICA NT & SA
555 California Street
San Francisco, CA 94104
Contact: John P. Sheehy, Sr. VP, (415) 622-9568

Number of separate master trust clients: 39
Number of directed trust clients: 420
Master trust assets: $16.3 billion
Directed trust assets: $11.1 billion
Custodial employee benefit assets: Not provided
Total employee benefit assets: $38.6 billion (includes $300 million in bank-managed funds)
Number of separate portfolios: 2700
Average number of accounts per account supervisor: 9
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: It can be
Short-term instruments used: STIF
Date short-term interest credited: First day of following month
Timeliness of reporting package: 5-10 business days for monthly and quarterly reports; 20-30 business days for annual reports
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, global custody
Policy for crediting dividends and interest: On payable date, credited to STIF
Fee structure: Based on combination of asset value and individual services

BANK OF BOSTON CONNECTICUT
81 West Main Street
Waterbury, CT 06720
Contact: Roland Smith, VP, (203) 574-7340

Number of separate master trust clients: Not reported
Number of directed trust clients: 125
Master trust assets: Not reported
Directed trust assets: $150 million
Custodial employee benefit asset value: $50 million
Total employee benefit asset value: $200 million
Number of separate portfolios: 125
Average number of accounts per account supervisor: 35
Average number of portfolios per investment manager contact: 35
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: Salomon Bros. repurchase agreement
Date short-term interest credited: 1 day delay
Timeliness of reporting package: Monthly within 7 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: Via tape (Muller data) on due date
Fee structure: Based on combination of asset value and individual services

THE BANK OF NEW YORK
48 Wall Street
New York, NY 10015
Contact: Roy Lanza, VP, (212) 530-3751

Number of separate master trust clients: 88
Number of directed trust clients: Included above
Master trust assets: $40.9 billion
Directed trust assets: Included above
Custodial employee benefit assets: $52 billion
Total employee benefit assets: $92.9 billion
Number of separate portfolios: Not reported
Average number of accounts per account supervisor: 10
Average number of portfolios per investment manager contact: 25
Accounting system utilized: Trade date (full accrual), actual delivery date
Fail float credit provided: Yes
Short-term instruments used: STIF portfolios, master notes, Bank of New York deposit reserve, direct investments at BNY or client discretion
Date short-term interest credited: STIF interest accrued daily, paid monthly
Timeliness of reporting package: 3-5 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, beneficial interest reporting system, global custody, FIRST (on-line reporting system), DIAL-IN, options/futures, administration, benefit payment system
Policy for crediting dividends and interest: Most domestic securities on payable date; foreign and private placements as received
Fee structure: Based on individual services performed

BANK ONE, DAYTON, N.A.
40 N. Main St.
Dayton, OH 45401
Contact: Donald G. Middendorf, VP, (513) 449-8659

Number of separate master trust clients: 8
Number of directed trust clients: 24
Master trust assets: $390 million
Directed trust assets: $350 million
Custodial employee benefit assets: $50 million
Total employee benefit assets: $575 million
Number of separate portfolios: 70

Average number of accounts per account supervisor: 20
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: Yes, master trust only
Short-term instruments used: Commercial paper, T-bills, STIF
Date short-term interest credited: Month end
Timeliness of reporting package: 3-5 business days
Services provided: Performance measurement, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, real estate fund, zero benefit disbursement, automatic sweep of funds in excess of $1.00
Policy for crediting dividends and interest: On payable date in Fed funds for government and STIF funds. All others use clearinghouse funds
Fee structure: Based on combination of asset value and individual services

BANKERS TRUST COMPANY
280 Park Avenue, 8 West
New York, NY 10017
Contact: Frederik L. Bailey, VP, (212) 850-2037

Number of separate master trust clients: 128
Number of directed trust clients: 100
Master trust assets: $91.1 billion
Directed trust assets: $1.7 billion
Custodial employee benefit asset value: $26.8 billion
Total employee benefit asset value: $169 billion
Number of separate portfolios: 1,735
Average number of accounts per account supervisor: 12
Average number of portfolios per investment manager contact: 80
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date, actual delivery date
Fail float credit provided: Yes
Short-term instruments used: Master notes and commercial paper of the major finance companies, CDs of major U.S. money-center banks, Euro-dollar CDs and time deposits issued by these same banks, CD's issued by major European and Japanese banks from their New York agencies, repurchase agreements collateralized by U.S. Treasury or Federal Agency obligations, repurchase agreements collateralized by the Canadian or foreign issuers mentioned above, and banker's acceptances
Date short-term interest credited: First business day of each month
Timeliness of reporting package: Monthly/quarterly transaction statements are available within three business days of period end; monthly/quarterly accountings are available 7-10 business days after month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, cash management, global custody, remote on-line access, consulting, active & passive investment services, cash projection, customized reporting, advisor services, options & futures processing, tax lot accounting, performance attribution, dividend reinvestment, discount brokerage, trade execution quality monitoring
Policy for crediting dividends and interest: On payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

BISHOP TRUST COMPANY, LTD.
P.O. Box 2390
Honolulu, HI 96804
Contact: Keith R. Gendreau, Asst. VP, (808) 523-2114

Number of separate master trust clients: 55
Number of directed trust clients: 270
Master trust assets: $127 million
Directed trust assets: $263 million
Custodial employee benefit assets: $263 million
Total employee benefit assets: $360 million
Number of separate portfolios: 265
Average number of accounts per account supervisor: 16 master - 50 directed
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: No
Short-term instruments used: Registered money market fund, T-Bills, CDs, commercial paper
Date short-term interest credited: Accrued daily, paid on second working day
Timeliness of reporting package: Delivered 10 days after month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, equity and income commingled investment funds, plan administration consulting and design
Policy for crediting dividends and interest: Pay date plus one with good funds
Fee structure: Based on combination of asset value and individual services

BOSTON SAFE DEPOSIT AND TRUST COMPANY
One Boston Place
Boston, MA 02106
Contact: John L. Carty, VP, (617) 722-7314

Number of separate master trust clients: 42
Number of directed trust clients: 290
Master trust assets: $33.7 billion
Directed trust assets: $846 million
Custodial employee benefit assets: $57.2 billion
Total employee benefit assets: $91.8 billion
Number of separate portfolios: 900
Average number of accounts per account supervisor: 4
Average number of portfolios per investment manager contact: 12
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes, if bank is responsible for a sale fail. Cash is transferred on actual settlement date for all purchase trades
Short-term instruments used: STIF, reserve deposit account, The Boston Company Cash Management Fund, active reserves, enhanced cash reserves
Date short-term interest credited: Accrued daily and credited on the third business day of the following month
Timeliness of reporting package: 5 business days following month-end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index funds, market inventory fund, full accrual trade date accounting and reporting, cash management, securities processing, global custody, structured investment products, analytical services, on-line access capabilities and PC workstation
Policy for crediting dividends and interest: Payable date for Fed funds; payable date plus one for clearinghouse funds for all scheduled interest and dividends collected through DTC of Federal Reserve Bank
Fee structure: Based on combination of asset value and individual services

CALIFORNIA FIRST BANK
530 B Street
P.O. Box 109
San Diego, CA 92112
Contact: Piet Westerbeek, VP & manager, (619) 230-3303

Number of separate master trust clients: 5
Number of directed trust clients: 400
Master trust assets: $200 million
Directed trust assets: $500 million
Custodial employee benefit assets: $600 million
Total employee benefit assets: $1.5 billion
Number of separate portfolios: Not provided
Average number of accounts per account supervisor: Not provided
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: Short Investment Fund, four money market funds
Date short-term interest credited: Last day of the month
Timeliness of reporting package: 8-10 business days
Services provided: Performance measurement, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, index fund
Policy for crediting dividends and interest: On payable date in clearinghouse funds
Fee structure: Based on combination of asset value and individual services

CENTERRE TRUST COMPANY
510 Locust Street
St. Louis, MO 63101
Contact: Richard W. Hibbs, VP, (314) 436-9265

Number of separate master trust clients: 10
Number of directed trust clients: Not provided
Master trust assets: $1.6 billion
Directed trust assets: $2.3 billion
Custodial employee benefit assets: $4.1 billion
Total employee benefit assets: $4.9 billion (discretionary), $4.l billion (non-discretionary)
Number of separate portfolios: 115
Average number of accounts per account supervisor: Not provided
Average number of portfolios per investment manager contact: 15-20
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: In-house STIF
Date short-term interest credited: Second day following month end
Timeliness of reporting package: 5-7 working days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, international collective fund, real estate collective fund
Policy for crediting dividends and interest: On payable date; computer system credit for immediate investment

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Fee structure: Based on combination of asset value and individual services

CHASE MANHATTAN BANK, N.A.
1211 Avenue of the Americas
New York, NY 10036
Contact: John A. Sweeney, VP, (212) 730-3008

Number of separate master trust clients: 160
Number of directed trust clients: 130
Master trust assets: $63.2 billion
Directed trust assets: $1.2 billion
Custodial employee benefit assets: $112 billion
Total employee benefit assets: $226.4 billion (including global employee benefit assets of $50 billion)
Number of separate portfolios: 1,000
Average number of accounts per account supervisor: 5
Average number of portfolios per investment manager contact: 30
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Commercial paper, banker's acceptance, purchase agreement, government & agencies, master notes, certificates of deposit, floating rate notes and corporate notes
Date short-term interest credited: Payable date
Timeliness of reporting package: 5-7 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, institutional cross trading, global custody, global performance, customized comparative universes, client training, consulting, cash management, investment specialty products, customized reporting, international securities lending
Policy for crediting dividends and interest: On payable date; interest income in Federal funds, dividend income in clearinghouse funds
Fee structure: Based on combination of asset value and individual services

CITIBANK, N.A.
153 East 53rd Street
New York, NY 10043
Contact: Gregory J. di Pretoro, VP, (212) 559-1523

Number of separate master trust clients: 33
Number of directed trust clients: 315
Master trust assets: $10.7 billion
Directed trust assets: $18.4 billion
Custodial employee benefit assets: $73.4 billion
Total employee benefit assets: $102.5 billion
Number of separate portfolios: 2,017
Average number of accounts per account supervisor: 9
Average number of portfolios per investment manager contact: 33
Accounting system utilized: Trade date (full accrual), contractual settlement date, actual delivery date
Fail float credit provided: Yes
Short-term instruments used: Liquid reserve fund, short term investment fund, demand notes, custom short term investment fund, money market deposit account, individual money market instruments
Date short-term interest credited: Mid-month and end of month
Timeliness of reporting package: 5-7 business days following receipt of all information
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, global custody, dividend reinvestment, flexible reporting and graphics (Citicorp Portfolio Analyst)
Policy for crediting dividends and interest: On payable date if paid in Fed Funds; payable date plus one if paid in clearinghouse funds
Fee structure: Based on individual services performed

CITIZENS AND SOUTHERN TRUST COMPANY
33 North Avenue, N.E., Suite 990
P.O. Box 4114
Atlanta, GA 30302
Contact: Edgar R. Smith, VP-CIT sales, (404) 897-3083

Number of separate master trust clients: 44
Number of directed trust clients: 94
Master trust assets: $1.5 billion
Directed trust assets: $1.5 billion
Custodial employee benefit assets: $8.3 billion
Total employee benefit assets: $11.9 billion
Number of separate portfolios: 500
Average number of accounts per account supervisor: 140
Average number of portfolios per investment manager contact: 15
Accounting system utilized: Trade date, contractual settlement date with pending adjustment, contractual settlement date, actual delivery date
Fail float credit provided: Yes
Short-term instruments used: Money market fund, VANS, cash management fund
Date short-term interest credited: On payable date
Timeliness of reporting package: Ten working days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, international fund
Policy for crediting dividends and interest: On payable date; immediate credit to account
Fee structure: Based on combination of asset value and individual services

CITY NATIONAL BANK OF FLORIDA
P.O. Box 025611
25 West Flagler St.
Miami, FL 33130
Contact: Richard Lyon, Asst. VP, (305) 577-7470

Number of separate master trust clients: 0
Number of directed trust clients: 4
Master trust assets: 0
Directed trust assets: $17 million
Custodial employee benefit assets: 0
Total employee benefit assets: $28 million
Number of separate portfolios: 4
Average number of accounts per account supervisor: 4
Average number of portfolios per investment manager contact: 1
Accounting system utilized: Delivery versus settlement
Fail float credit provided: No
Short-term instruments used: Yes
Date short-term interest credited: End of each month
Timeliness of reporting package: Monthly, quarterly, semi-annually, annually
Services provided: Portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: When received

Fee structure: Based on combination of asset value and individual services

CONNECTICUT BANK & TRUST COMPANY, N.A.
One Constitution Plaza(MO8F)
Hartford, CT 06115
Contact: Paul W. Stadler, VP, Mgr. mktg. & sls., custom financial management div., (203) 244-5385

Number of separate master trust clients: 25
Number of directed trust clients: 75
Master trust assets: $1.1 billion
Directed trust assets: $872 million
Custodial employee benefit assets: $119 million
Total employee benefit assets: $2.1 billion
Number of separate portfolios: 237
Average number of accounts per account supervisor: 25 relationships with average of two plans per account
Average number of portfolios per investment manager contact: 27
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: Yes
Short-term instruments used: Commingled short term funds, repurchase agreements, variable interest rate notes, CDs, commercial paper, U.S. governments
Date short-term interest credited: Monthly
Timeliness of reporting package: 2-20 business days, depending upon type of report
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, South Africa-free equity fund
Policy for crediting dividends and interest: On payable date; in Fed funds for Fed funds, same day; clearinghouse for clearinghouse funds, next day
Fee structure: Based on combination of asset value and individual services

THE CONNECTICUT NATIONAL BANK
777 Main Street
Hartford, CT 06115
Contact: Arnold P. Boecklin, VP, (203) 728-4420

Number of separate master trust clients: 25
Number of directed trust clients: 19
Master trust assets: $1.7 billion
Directed trust assets: $502 million
Custodial employee benefit assets: $502 million
Total employee benefit assets: $4.3 billion
Number of separate portfolios: 162
Average number of accounts per account supervisor: 12
Average number of portfolios per investment manager contact: 10
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: U.S. govt. and agency obligations, CD's, VANS, REPOS, commercial paper, GICs
Date short-term interest credited: same day
Timeliness of reporting package: 4 business days following month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, index fund
Policy for crediting dividends and interest: On payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY
231 South LaSalle Street
Chicago, IL 60697
Contact: Christopher S. Ross, VP, (312) 828-3560

Number of separate master trust clients: 46
Number of directed trust clients: 227
Master trust assets: $15.6 billion
Directed trust assets: $1.8 billion
Custodial employee benefit assets: Not provided
Total employee benefit assets: $17.4 billion
Number of separate portfolios: Not provided
Average number of accounts per account supervisor: 15
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: Continental Bank's STIF or others as directed by client or manager
Date short-term interest credited: Second business day
Timeliness of reporting package: Cash statements - second business day; asset list, sixth business day; fully reconciled fund accounting - 30th calendar day
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, global custody, on-line access to data, flexible reporting, electronic mail system
Policy for crediting dividends and interest: On published payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

DOMINION TRUST COMPANY
213 S. Jefferson St.
P.O. Box 13327
Roanoke, VA 24040
Contact: Stephen A. Slovensky, VP, (703) 563-7857

Number of separate master trust clients: 1
Number of directed trust clients: 69
Master trust assets: $49 million
Directed trust assets: $175 million
Custodial employee benefit assets: $88 million
Total employee benefit assets: $312 million
Number of separate portfolios: 221
Average number of accounts per account supervisor: 23
Average number of portfolios per investment manager contact: 60
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: No
Short-term instruments used: Temporary Investment Fund, Inc., Trustfunds liquid asset trust Treasury portfolio
Date short-term interest credited: First of following month
Timeliness of reporting package: By fifth business day following end of accounting period to investment managers; by 15th business day to client
Services provided: Portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: Corporate issues - on settlement date in clearinghouse funds; government issues - on settlement date in Federal funds
Fee structure: Based on combination of asset value and individual services

FIRST INTERSTATE BANK OF CALIFORNIA
707 Wilshire Blvd.
Los Angeles, CA 90017
Contact: Terry Colberg, VP (213) 614-2336

Number of separate master trust clients: 20
Number of directed trust clients: 251
Master trust assets: $3.3 billion
Directed trust assets: $11.2 billion
Custodial employee benefit assets: $1 billion
Total employee benefit assets: $18.7 billion
Number of separate portfolios: 1200
Average number of accounts per account supervisor: 45
Average number of portfolios per investment manager contact: 35
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: Yes
Short-term instruments used: First Interstate short term Income Fund, extended money market fund
Date short-term interest credited: First week following end of month
Timeliness of reporting package: No later than 10 working days following month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, on-line access, cash management, customized reporting, automatic daily sweep into STIF
Policy for crediting dividends and interest: From payable date
Fee structure: Based on combination of asset value and individual services

FIRST INTERSTATE BANK OF OREGON, N.A.
P.O. Box 2971
Portland, OR 97208
Contact: Peter M. Cullen, VP, (503) 225-2484

Number of separate master trust clients: 23
Number of directed trust clients: 34
Master trust assets: $4.2 billion
Directed trust assets: $302 million
Custodial employee benefit assets: 0
Total employee benefit assets: $5.4 billion
Number of separate portfolios: 139
Average number of accounts per account supervisor: 58
Average number of portfolios per investment manager contact: 1.4
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: No
Short-term instruments used: A variety of high yield institutions-only money market funds
Date short-term interest credited: Last day of month
Timeliness of reporting package: Within five business days
Services provided: Performance measurement, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, on-line access, cash management, global custody, multicurrency accounting, options & futures processing, customized reporting
Policy for crediting dividends and interest: On payable date in Fed funds
Fee structure: Based on combination of asset value and individual services

Directory of Master and Directed Trust Services continues on page 52

FIRST INTERSTATE BANK OF UTAH, N.A.
180 South Main Street
P.O. Box 30169
Salt Lake City, UT 84142
Contact: Rod R. Cushing, VP, (801) 350-7118

Number of separate master trust clients: 29
Number of directed trust clients: 45
Master trust assets: $165 million
Directed trust assets: $5 million
Custodial employee benefit assets: $286 million
Total employee benefit assets: $497 million
Number of separate portfolios: 67
Average number of accounts per account supervisor: 24
Average number of portfolios per investment manager contact: 24
Accounting system utilized: Contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Various short term investment funds, commercial paper and Treasury bills
Date short-term interest credited: First business day of month
Timeliness of reporting package: 5-10 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, index fund, plan design, IRS plan qualification, computer on-line data access, full income and expense accrual accounting, automated daily sweep of cash to STIF investment
Policy for crediting dividends and interest: On payable date through internal suspense
Fee structure: Based on combination of asset value and individual services

FIRST INTERSTATE BANK OF WASHINGTON, N.A.
Trust Division
P.O. Box 21927
Seattle, WA 98111
Contact: Lawrence T. Divers, VP & trust officer, (206) 343-8346

Number of separate master trust clients: Not provided
Number of directed trust clients: 38
Master trust assets: Not provided
Directed trust assets: $1.5 billion
Custodial employee benefit assets: $1.1 billion
Total employee benefit assets: $1.3 billion
Number of separate portfolios: Not provided
Average number of accounts per account supervisor: Not provided
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: In-house short-term investment fund, Federated master trust, federated intermediate
Date short-term interest credited: Statement date
Timeliness of reporting package: 10 working days after month end
Services provided: Performance measurement, participant recordkeeping, securities lending, cash management and lockbox services
Policy for crediting dividends and interest: On payable date
Fee structure: Based on individual services performed

FIRST NATIONAL BANK & TRUST COMPANY OF TULSA
P.O. Box One
Tulsa, Ok 74193
Contact: Richard A. Moser, Sr. VP & Sr. Trust Officer, (918) 586-5661

Number of separate master trust clients: 3
Number of directed trust clients: 54
Master trust assets: $126 million
Directed trust assets: $141 million
Custodial employee benefit assets: $705 million
Total employee benefit assets: $972 million
Number of separate portfolios: 57
Average number of accounts per account supervisor: 29
Average number of portfolios per investment manager contact: 270
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments utilized: Short term inv. company, Dreyfus Money Market, Federated U.S. Treasury obligations, ILA Govt., Shearson Temp. Fund
Date short-term interest credited: First day following month end
Timeliness of reporting package: By 15th business day
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On payable date in good funds
Fee structure: Based on combination of asset value and individual services

FIRST PENNSYLVANIA BANK, N.A.
15th & Chestnut Streets
Philadelphia, PA 19101
Contact: James F. McHale, Sr. VP, (215) 786-7946

Number of separate master trust clients: 18
Number of directed trust clients: 70
Master trust assets: $3.8 billion
Directed trust assets: $2.2 billion
Custodial employee benefit assets: $22.2 billion
Total employee benefit assets: $26 billion
Number of separate portfolios: 175
Average number of accounts per account supervisor: 17
Average number of portfolios per investment manager contact: 50
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Government Secured Master Repo Account
Date short-term interest credited: Monthly
Timeliness of reporting package: 10 working days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, performance comparison, global custody, downloading, on-line performance measurement, on-line via dial-up capability
Policy for crediting dividends and interest: On payable date in clearinghouse funds on equities and municipals; Federal funds on government issues
Fee structure: Based on combination of asset value and individual services

FIRST REPUBLICBANK
P.O. Box 241
Dallas, TX 75221
Contact: David J. Pittman, Sr. VP, (214) 922-6506

Number of separate master trust clients: 251
Number of directed trust clients: Included with master trust clients
Master trust assets: $25.6 billion
Directed trust assets: Included with master trust assets
Custodial employee benefit assets: $12.6 billion
Total employee benefit assets: $36.4 billion
Number of separate portfolios: 205
Average number of accounts per account supervisor: 10
Average number of portfolios per investment manager contact: 9
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Commingled STIF, individually managed STIF, aggressive STIF, Silver Star and others
Date short-term interest credited: First and 15th
Timeliness of reporting package: On-line, second business day; hard copy, fifth business day
Services provided: On-line performance measurement, portfolio analysis, portfolio review, on-line participant recordkeeping, securities lending, ERISA disclosure assistance, on-line benefit disbursement, index fund, market inventory fund, client on-line reporting, downloading and formatting capabilities, 150+ accounting reports, fail float earnings, dividends and interest on payable date in good funds, on-line DTC/ID securities processing, global custody, portfolio insurance, daily pricing, futures and options trading, GIC wholesale/managed, and control disbursement
Policy for crediting dividends and interest: On payable date in good funds
Fee structure: Based on combination of asset value and individual services

FIRST VERMONT BANK
15 Harris Place
Brattleboro, VT 05301
Contact: Donna L. Gilbert, employee benefits administrative officer, (802) 254-8711

Number of separate master trust clients: 170
Number of directed trust clients: 2
Master trust assets: $66 million
Directed trust assets: $4 million
Custodial employee benefit asset value: Not provided
Total employee benefit asset value: $70 million
Number of separate portfolios: 20
Average number of accounts per account supervisor: 50
Average number of portfolios per investment manager contact: 10
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Not stated
Short-term instruments used: Federated short-term U.S. government fund, First Vermont Bank Trust Money Market Account
Date short-term interest credited: Fifth of month
Timeliness of reporting package: 60 days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On payable date
Fee structure: Based on combination of asset value and individual services

FIRST WACHOVIA
301 North Main Street
Winston-Salem, NC 27150
Contact: Jane B. Fisher, VP, (919) 770-6348

Number of separate master trust clients: 57
Number of directed trust clients: 60
Master trust assets: $23.2 billion
Directed trust assets: $500 million
Custodial employee benefit assets: $4 billion

Total employee benefit assets: $31.7 billion
Number of separate portfolios: 550
Average number of accounts per account supervisor: 8
Average number of portfolios per investment manager contact: 20
Accounting system utilized: Contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: STIF Funds, demand notes, short-term bond fund, Treasury notes, repos, and individually managed short-term accounts
Date short-term interest credited: First
Timeliness of reporting package: 10 business days or less
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, global custody, securities lending, options and futures processing, TUCS, Rabbi Trust administration, performance consulting, asset allocation, PC downloading, flexible reporting
Policy for crediting dividends and interest: On payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

FIRST WISCONSIN TRUST COMPANY
P.O. Box 2054
777 E. Wisconsin Avenue
Milwaukee, WI 53201
Contact: Anthony M. Rood, Jr., First VP, (414) 765-4444

Number of separate master trust clients: 34
Number of directed trust clients: 802
Master trust assets: $3.7 billion
Directed trust assets: $1.7 billion
Custodial employee benefit assets: $1.2 billion
Total employee benefit assets: $8.2 billion (includes discretionary)
Number of separate portfolios: 850
Average number of accounts per account supervisor: 15
Average number of portfolios per investment manager contact: 50
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: Short-term income fund and variable demand notes
Date short-term interest credited: By second business day of the month
Timeliness of reporting package: Financial transactions are available on the second business day of the month
Services provided: Performance measurement, portfolio analysis, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, quantitative fixed income management (bond index, immunization/dedication), stock index management
Policy for crediting dividends and interest: On payable date in clearinghouse funds
Fee structure: Based on combination of asset value and individual services

HT INVESTORS, INC.
321 South Main Street
Providence, RI 02903
Contact: J. Richard Schroder, VP-marketing director, (401) 276-6100

Number of separate master trust clients: 13

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- Senior Vice President of a multi-billion dollar investment advisory firm.

For further information, please contact:

Irwin Tepper Associates
77 Oak Street, Suite 2 • Newton, MA 02164 • 617-244-6747

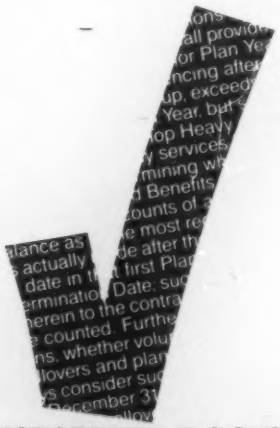
Number of directed trust clients: 25
Master trust assets: $600 million
Directed trust assets: $643 million
Custodial employee benefit assets: $102 million
Total employee benefit assets: $1.5 billion
Number of separate portfolios: 137
Average number of accounts per account supervisor: Not provided
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Actual delivery date with pending adjustment
Fail float credit provided: No
Short-term instruments used: Shearson Lehman Brothers Inc. Temp. Fund
Date short-term interest credited: Accrued daily/credited on first business day of month
Timeliness of reporting package: Cash statements, second business day; all others 5th-7th business day
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, options and futures processing, 401(k) capabilities, plan accounting, fund accounting, on-line accounting and reporting system
Policy for crediting dividends and interest: Payable date for Federal funds; next business day following payable date for clearinghouse funds
Fee structure: Based on combination of asset value and individual services

HARRIS TRUST AND SAVINGS BANK
111 West Monroe Street
Chicago, IL 60603
Contact: Walter J. Kowalczyk, VP, (312) 461-7625

Number of separate master trust clients: 64
Number of directed trust clients: 231
Master trust assets: $37.3 billion
Directed trust assets: $7.5 billion
Custodial employee benefit assets: $8.8 billion
Total employee benefit assets: $53.6 billion
Number of separate portfolios: 740
Average number of accounts per account supervisor: 9
Average number of portfolios per investment manager contact: 85
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: STIF, commercial paper, certificates of deposit (domestic and Euro), bankers acceptances, U.S. government and agency issues, repurchase agreements, demand notes
Date short-term interest credited: Third or fourth business day of the following month
Timeliness of reporting package: Monthly transactions and assets, 2 to 7 business days; monthly and annual audited financial summaries with ERISA and plan accounting, 12 to 15 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, Trust Universe Comparison Service, options/futures accounting, global custody, on-line accounting and analytics with download capability, on-line "flexi-reporting," automated daily sweep of cash, automated cash management, custom cash management
Policy for crediting dividends and interest: On payable date in good funds
Fee structure: Based on combination of asset value and individual services

HERITAGE PULLMAN BANK & TRUST COMPANY
1000 E. 111th St.
Chicago, IL 60628
Contact: Robert J. Ferrari or Christopher P. Joyce VPs & trust officers, (312) 785-1000

Number of separate master trust clients: 0
Number of directed trust clients: 25
Master trust assets: 0
Directed trust assets: $50 million
Custodial employee benefit assets: $3 million
Total employee benefit assets: $120 million
Number of separate portfolios: 27
Average number of accounts per account supervisor: 125
Average number of portfolios per investment manager contact: 27
Accounting system utilized: Contractual settlement date; None for purchases, one day later on sales
Short-term instruments used: Federated funds
Date short-term interest credited: First of month
Timeliness of reporting package: Not provided
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, fixed income fund - average maturity, 4½ years; equity fund - mostly large companies
Policy for crediting dividends and interest: On receipt
Fee structure: Based on combination of asset value and individual services



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THE INTERNATIONAL TRUST COMPANY
Royal Bank Plaza, North Tower, Box 75
Toronto, Ontario, Canada M5J 2J2
Contact: William A. Pascoe, VP-client services, (416) 865-0515

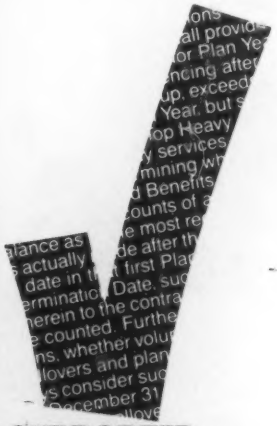
All figures are in Canadian dollars
Number of separate master trust clients: 19
Number of directed trust clients: 35
Master trust assets: $3.8 billion
Directed trust assets: $2.1 billion
Custodial employee benefit assets: Not provided
Total employee benefit assets: $5.9 billion
Number of separate portfolios: 512
Average number of accounts per account supervisor: 35
Average number of portfolios per investment manager contact: 15
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: No
Short-term instruments used: Daily STIF available, also client-directed STIFs
Date short-term interest credited: Daily
Timeliness of reporting package: 2-10 days (depends on needs and account profile)
Services provided: Performance measurement, portfolio analysis, participant recordkeeping, securities lending, benefit disbursement, index fund
Policy for crediting dividends and interest: On payable date
Fee structure: Based on combination of asset value and individual services

IRVING TRUST COMPANY
One Wall Street
New York, NY 10015
Contact: Paul L. McNamara, VP, (212) 635-1720

Number of separate master trust clients: 32
Number of directed trust clients: 64
Master trust assets: $15.5 billion
Directed trust assets: $1.8 billion
Custodial employee benefit assets: $37 billion
Total employee benefit assets: $54.3 billion
Number of separate portfolios: 700
Average number of accounts per account supervisor: 8
Average number of portfolios per investment manager contact: 50
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Master notes; repos; U.S. government and agency obligations; domestic and offshore time deposits of domestic banks; domestic, European and foreign bank CDs; bankers' acceptances; commercial paper; shelf registration notes; short-term bonds
Date short-term interest credited: First business day of the month
Timeliness of reporting package: 5-10 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, investment management, global custody, pension consulting services, immunized and dedicated bond portfolios, on-line reporting, PC communication system, cash management
Policy for crediting dividends and interest: On payable date in Fed funds
Fee structure: Based on combination of asset value and individual services

LASALLE NATIONAL BANK
135 S. LaSalle St.
Chicago, IL 60690
Contact: James F. Sullivan, Sr. VP, (312) 443-2497

Number of separate master trust clients: 13
Number of directed trust clients: 50
Master trust assets: $650 million
Directed trust assets: $700 million
Custodial employee benefit assets: $8.5 billion
Total employee benefit assets: $1.5 billion (trust), $4 billion (custodial)
Number of separate portfolios: 300
Average number of accounts per account supervisor: 70
Average number of portfolios per investment manager contact: 15-20
Accounting system utilized: Contractual settlement date (optional), actual delivery date (normal)
Fail float credit provided: Available — not normal
Short-term investment used: STIF, demand notes, super STIF
Date short-term interest credited: Second business day
Timeliness of reporting package: Varies with report, 8th-10th business day
Services provided: Performance measurement, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, index fund, full range of investment products, super STIF for major accounts



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Policy for crediting dividends and interest: On payable date through automatic credit to account
Fee structure: Based on combination of asset value and individual services

MANUFACTURERS HANOVER TRUST
330 Fifth Avenue, 4th Floor
New York, NY 10036
Contact: Renee San Marco, VP, (212) 819-1580

Number of separate master trust clients: 117 (includes master custody)
Number of directed trust clients: 106
Master trust assets: $29.7 billion
Directed trust assets: $3 billion
Custodial employee benefit assets: $32 billion
Total employee benefit assets: $65 billion
Number of separate portfolios: 1,275
Average number of accounts per account supervisor: 8
Average number of portfolios per investment manager contact: 85
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date, actual delivery date
Fail float credit provided: Yes
Short-term instruments used: Manufacturers Hanover's STIF
Date short-term interest credited: Accrued daily; credited by 5th business day.
Timeliness of reporting package: Monthly transaction report 3-5 business days, financial reports 5-7 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund (available through Manufacturers Hanover Investment Corp.) market inventory fund (available through Manufacturers Hanover Investment Corp.), plan accounting, Vertically Integrated On-Line Access (VIOLA), actuarial services
Policy for crediting dividends and interest: On payable date for listed securities, credited with same day funds
Fee structure: Based on combination of asset value and individual services

MANUFACTURERS NATIONAL BANK OF DETROIT
100 Renaissance Center, 13th Floor
Detroit, MI 48243
Contact: Robert R. Schoonbeck, Sr. VP, (313) 222-4470

Number of separate master trust clients: 29
Number of directed trust clients: 328
Master trust assets: $18.3 billion
Directed trust assets: $15.4 billion
Custodial employee benefit assets: $4.4 billion
Total employee benefit assets: $20.7 billion
Number of separate portfolios: Not provided
Average number of accounts per account supervisor: 12
Average number of portfolios per investment manager contact: 16
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Commercial paper, certificates of deposit, repurchase agreements
Date short-term interest credited: Third business day after month end
Timeliness of reporting package: 5 business days after end of period
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, benefit disbursement, index fund, cash management
Policy for crediting dividends and interest: On payable date automatically
Fee structure: Based on combination of asset value and individual services

MARINE MIDLAND BANK, N.A.
250 Park Avenue, Second Floor
New York, NY 10177
Contact: Moira L. Patterson, VP, (212) 503-2724

Number of separate master trust clients: 20
Number of directed trust clients: 110
Master trust assets: $1.8 billion
Directed trust assets: $600 million
Custodial employee benefit assets: $800 million
Total employee benefit assets: $3.2 billion
Number of separate portfolios: 470
Average number of accounts per account supervisor: 15-20
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: STIF, money market fund, T-bills, master notes, commercial paper
Date short-term interest credited: Monthly (end of month)
Timeliness of reporting package: 7-10 business days
Services provided: Performance measurement, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, on-line access
Policy for crediting dividends and interest: On payable date automatically
Fee structure: Based on individual services performed

MARQUETTE BANK MINNEAPOLIS
6th & Marquette
Minneapolis, MN 55402
Contact: Peter Miller, VP trust marketing, (612) 341-7867

Number of separate master trust clients: 0
Number of directed trust clients: 215
Master trust assets: 0
Directed trust assets: $150 million
Custodial employee benefit asset value: $400 million
Total employee benefit asset value: $550 million
Number of separate portfolios maintained: 150
Average number of accounts per account supervisor: 50
Average number of portfolios per investment manager contact: 50
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Not stated
Short-term instruments used: Commercial paper, bankers acceptances, etc. Institutional money market accounts: Shearson, Fidelity, Federated
Date short-term interest credited: First of each month
Timeliness of reporting package: 10 business days after month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On due date
Fee structure: Based on combination of asset value and individual services

MARSHALL & ILSLEY TRUST COMPANY
770 North Water Street
Milwaukee, WI 53202
Contact: Morry L. Birnbaum, VP, (414) 287-7187

Number of separate master trust clients: 40
Number of directed trust clients: 600
Master trust assets: $1.8 billion
Directed trust assets: $900 million
Custodial employee benefit assets: $200 million
Total employee benefit assets: $2.9 billion
Number of separate portfolios: 600
Average number of accounts per account supervisor: 100
Average number of portfolios per investment manager contact: 15
Accounting system utilized : Contractual settlement date with pending adjustment
Fail float credit provided: Negotiated
Short-term instruments used: STIF with ACM; T-bills
Date short-term interest credited: Daily
Timeliness of reporting package: 5-7 business days
Services provided: Performance measurement, participant recordkeeping, ERISA disclosure assistance, benefit disbursement, on-line access, investment management
Policy for crediting dividends and interest: On payable date in actual funds
Fee structure: Based on combination of asset value and individual services

MARYLAND NATIONAL BANK
2 N. Charles Street
P.O. Box 995
Baltimore, MD 21203
Contact: Patricia L. Potter, VP, (301) 347-9070

Number of separate master trust clients: 3
Number of directed trust clients: 52
Master trust assets: $136 million
Directed trust assets: $498 million
Custodial employee benefit assets: N/A (handled in separate custody-only department
Total employee benefit assets: $1.1 billion
Number of separate portfolios: 114
Average number of accounts per account supervisor: 38
Average number of portfolios per investment manager contact: 55
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: No
Short-term instruments used: Commingled cash reserve fund
Date short-term interest credited: Third of following month
Timeliness of reporting package: Within 10 days of period end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On due date, credited to cash
Fee structure: Based on combination of asset value and individual services

MELLON BANK
One Mellon Bank Center
Pittsburgh, PA 15258
Contact: Gary A. Rothman, VP, (412) 234-5000

Number of separate master trust clients: 98
Number of directed trust clients: 58
Master trust assets: $98.7 billion
Directed trust assets: $2.5 billion
Custodial employee benefit assets: $5.6 billion
Total employee benefit assets: $93.3 billion
Number of separate portfolios: 1,000
Average number of accounts per account supervisor: 5-8 (depending on specifics)
Average number of portfolios per investment manager contact: 50
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: Commingled, short-term funds utilizing A-1 and P-1 investments
Date short-term interest credited: Earned daily/credited weekly
Timeliness of reporting package: Monthly, quarterly and annually with monthly statements available third business day following month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, global custody, performance analytics, on-line access, options & futures, customized reports, performance consulting
Policy for crediting dividends and interest: On payable date; clearinghouse funds for corporate bonds and equities; Fed funds for governments
Fee structure: Based on combination of asset value and individual services

MONTREAL TRUST COMPANY OF CANADA
15 King Street West
Toronto, Ontario
Contact: Ray La Force, VP-pension administration, (416) 860-5649

All figures are in Canadian dollars
Number of separate master trust clients: 82
Number of directed trust clients: 273
Master trust assets: $7.3 billion
Directed trust assets: $1.4 billion
Custodial employee benefit assets: $17.2 billion
Total employee benefit assets: $18.6 billion
Number of accounts: 1150
Average number of accounts per account supervisor: 67
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: T-Plus (STIF)
Date short-term interest credited: Monthly (accrued daily)
Timeliness of reporting package: 5 to 10 working days following month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, benefit disbursement, global custody, specialized index funds
Policy for crediting dividends and interest: On payable date; credited automatically to account
Fee structure: Based on combination of asset value and individual services

NATIONAL BANK OF DETROIT
611 Woodward Avenue
Detroit, MI 48226
Contact: Larry D. Rankens, Asst. VP, (313) 225-2660

Number of separate master trust clients: 116
Number of directed trust clients: Not provided
Master trust assets: $13.7 million
Directed trust assets: Not provided
Custodial employee benefit assets: $14.3 million
Total employee benefit assets: $28 million
Number of separate portfolios: 445
Average number of accounts per account supervisor: 10
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: A fund with a diversified portfolio of high quality, short-term instruments, including trust demand notes and commercial paper, domestic and Eurodollar CDs, bankers acceptances, repurchase agreements secured by Treasury issues and Treasury bills
Date short-term interest credited: First business day after end of month
Timeliness of reporting package: Monthly reports: 5-7 business days; asset and liability reports: within 30 business days; performance measurement: within 5-30 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, cash management, data monitor (on-line access), global custody
Policy for crediting dividends and interest: On payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

NATIONAL TRUST COMPANY
21 King Street East
Toronto, Ontario M5C 1B3
Contact: Julie K. Spergel, director, business development, (416) 361-3611

All figures are in Canadian dollars
Number of separate master trust clients: 36
Number of directed trust clients: 140
Master trust assets: $4 billion
Directed trust assets: $4 billion
Custodial employee benefit assets: $8 billion
Total employee benefit assets: $12 billion
Number of separate portfolios: Not provided
Average number of accounts per account supervisor: 10
Average number of portfolios per investment manager contact: Not provided
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: Not applicable—95% of trades processed through Canadian Depository for Securities (book-based system)
Short-term instruments used: STIF, daily bank interest on uninvested cash
Date short-term interest credited: Daily
Timeliness of reporting package: 10 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, benefit disbursement, index fund, global fund

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Policy for crediting dividends and interest: On due date automatically by bond and dividend registers
Fee structure: Based on combination of asset value and individual services

THE NORTHERN TRUST COMPANY
50 South LaSalle Street
Chicago, IL 60675
Contact: Thomas W. Kimen, Jr., Sr. VP, (312) 630-6000

Number of separate master trust/custody clients: 190
Number of directed trust clients: 37
Master trust/custody assets: $101.4 billion
Directed trust assets: $1.5 billion
Custodial employee benefit assets: $6.2 billion
Total employee benefit assets: $109.1 billion
Number of separate portfolios: 2,025
Average number of accounts per account supervisor: 5
Average number of portfolios per investment manager contact: 67
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: Yes
Short-term instruments used: STIF, benchmark & NORCASH
Date short-term interest credited: Third business day after month end
Timeliness of reporting package: 3 to 5 days after period end; available on-line 24 hours a day
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, global custody, portfolio restructuring, EAFE index fund, electronic delivery, cash management, asset management
Policy for crediting dividends and interest: On payable date. Regularly scheduled dividend and interest payments are credited on payable date in good funds regardless of whether The Northern Trust has received the funds
Fee structure: Based on combination of asset value and individual services

NORWEST BANK MINNEAPOLIS
8th & Marquette
Minneapolis, MN 55479
Contact: Stan Medina, director of sales, (612) 372-5023

Number of separate master clients: 23
Number of directed trust clients: 950
Master trust assets: $2.6 billion
Directed trust assets: $6.8 billion
Custodial employee benefit asset value: $2 billion
Number of separate portfolios: 220
Average number of accounts per account supervisor: 7
Average number of portfolios per investment manager contact: 44
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: No
Short-term instruments used: STIF, Dreyfus cash management 2 (daily sweep)
Date short-term interest credited: Second business day of each month
Timeliness of reporting package: 10 business days
Services provided: Performance measurement (including TUCS), portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, on-line access, asset allocation
Policy for crediting dividends and interest: On payable date
Fee structure: Based on combination of asset value and individual services

RICHFIELD BANK & TRUST CO.
6625 Lyndale Ave. So.
Richfield, MN 55423
Contact: John L. Simpson, VP and trust officer, (612) 861-8307

Number of separate master trust clients: 0
Number of directed trust clients: 685
Master trust assets: 0
Directed trust assets: $90 million
Custodial employee benefit assets: $30 million
Total employee benefit assets: $160 million
Number of separate portfolios: 400
Average number of accounts per account supervisor: 100
Average number of portfolios per investment manager contact: 4-5
Accounting system utilized: Trade date (full accrual) for cash, contractual settlement date with pending adjustment (on purchases), actual delivery date (on sales)
Fail float credit provided: No
Short-term instruments used: Money market funds, T-bills
Date short-term interest credited: Monthly
Timeliness of reporting package: 60 days
Services provided: Portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On actual receipt
Fee structure: Based on combination of asset value and individual services

ROYAL TRUST CORPORATION OF CANADA
P.O. Box 7500, Station A
Toronto, Ontario M5W 1P9
Contact: M. Fraser Blakely, VP, pension & custodial services, (416) 864-6398

All figures are in Canadian dollars
Number of separate master trust clients: 133
Number of directed trust clients: 968
Master trust assets: $22.4 billion
Directed trust assets: $26.2 billion
Custodial employee benefit assets: $2.6 billion
Total employee benefit assets: $51.2 billion
Number of separate portfolios: 2,385
Average number of accounts per account supervisor: 170
Average number of portfolios per investment manager contact: 10
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: No (guaranteed contractual date settlement)
Short-term instruments used: All (as selected by manager)
Date short-term interest credited: Short-term fund not offered; interest calculated on daily balances, paid month end
Timeliness of reporting package: 10-20 business days (to client's requirements)
Services provided: Performance measurement, participant recordkeeping, securities lending, benefit disbursement, global custody, domestic and foreign management, on-line inquiry/data entry, downloading, asset/liability forecasting
Policy for crediting dividends and interest: On pay date in automatic credit
Fee structure: Based on combination of asset value and individual services

SEAFIRST BANK
701 Fifth Avenue
Seattle, WA 98104
Contact: Steven A. Horman, VP, (206) 358-3297

Number of separate master trust clients: 8
Number of directed trust clients: 200
Master trust assets: $158 million
Directed trust assets: $680 million
Custodial employee benefit assets: Not provided
Total employee benefit assets: $1.5 billion
Number of separate portfolios: 350
Average number of accounts per account supervisor: 88
Average number of portfolios per investment manager contact: 15
Accounting system utilized: Trade date (full accrual), contractual settlement date
Fail float credit provided: Not stated
Short-term instruments used: STIF
Date short-term interest credited: Third business day of following month
Timeliness of reporting package: Not provided
Services provided: Performance measurement, participant recordkeeping
Policy for crediting dividends and interest: On payable date
Fee structure: Based on combination of asset value and individual services

STATE STREET BANK AND TRUST COMPANY
One Monarch Drive (W5B)
North Quincy, MA 02171
Contact: John G. Houlihan, Sr. VP, (617) 847-7490

Number of separate master trust clients: 210
Number of directed trust clients: Included with master trust clients
Master trust assets: $93.2 billion
Directed trust assets: Included with master trust assets
Custodial employee benefit assets: $97.7 billion
Total employee benefit assets: $190.9 billion
Number of separate portfolios: 1,708
Average number of accounts per account supervisor: 4
Average number of portfolios per investment manager contact: 5
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: STIF, Government STIF, Maturity Plus STIF, Stock Performance Index Futures Fund (SPIFF, SPIFF Plus and others), Synthetic STIF, Institutional Liquid Assets, The Merrill Lynch Fund
Date short-term interest credited: Second business day after month end
Timeliness of reporting package: 5-7 business days after month end
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement, index fund, market inventory fund, asset management services, global custody network with multicurrency accounting, plan accounting, pool accounting, 401(k), 501(c)(9), etc. services, plan advisory services, on-line client access, performance measurement and analytics, client report formatting capabilities, daily pricing, real estate accounting
Policy for crediting dividends and interest: As received
Fee structure: Based on asset value, transaction volume and individual services performed

THE SUMITOMO BANK OF CALIFORNIA
320 California Street
San Francisco, CA 94104
Contact: Bob R. Otani, VP and trust mgr., (415) 445-8090
Number of separate master trust clients: 0
Number of directed trust clients: 450
Master trust assets: 0
Directed trust assets: $150 million
Custodial employee benefit asset value: $50 million
Total employee benefit asset value: $200 million
Number of separate portfolios: 550
Average number of accounts per account supervisor: 150
Average number of portfolios per investment manager contact: 6
Accounting system utilized: Actual delivery date
Fail float credit provided: No
Short-term instruments used: Money market funds
Date short-term interest credited: Last day of month
Timeliness of reporting package: Within two weeks of reporting period
Services provided: Benefit disbursement
Policy for crediting dividend and interest: As received through Depository Trust Company
Fee structure: Based on combination of asset value and individual services

TRUST COMPANY BANK
P.O. Box 4655
Atlanta, GA 30303
Contact: Paul L. Robertson, III, VP, (404) 588-7319

Number of separate master trust clients: 12
Number of directed trust clients: 35
Master trust assets: $941 million
Directed trust assets: $466 million
Custodial employee benefit asset ... billion
Total employee benefit assets: $3.3 n... on
Number of separate portfolios: 72
Average number of accounts per account supervisor: 7
Average number of portfolios per investment manager contact: 12
Accounting system utilized: Trade date (full accrual), contractual settlement date with pending adjustment, contractual settlement date
Fail float credit provided: Yes
Short-term instruments used: Short-term investments company
Date short-term interest credited: Monthly
Timeliness of reporting package: Accounting statements within 10 business days
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, securities lending, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On payable date in Federal funds
Fee structure: Based on combination of asset value and individual services

UNITED MISSOURI BANK OF KANSAS CITY, N.A.
1010 Grand
P.O. Box 419226
Kansas City, MO 64141-9946
Contact: Nancy J. Byers, VP, (816) 556-7474

Number of separate master trust clients: 36
Number of directed trust clients: 354
Master trust assets: $1 billion
Directed trust assets: $800 million
Custodial employee benefit assets: $2.1 billion
Total employee benefit assets: $2.4 billion
Number of separate portfolios: 90
Average number of accounts per account supervisor: 25
Average number of portfolios per investment manager contact: 5
Accounting system utilized: Contractual settlement date with pending adjustment
Fail float credit provided: No
Short-term instruments used: Short-Term Money Market Fund and UMB Money Market Fund are primary. Other secondary instruments also used
Date short-term interest credited: First day of month for preceding month's interest
Timeliness of reporting package: 2-21 days, dependent on assets held
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On payable date in cash or in kind
Fee structure: Based on combination of asset value and individual services

U.S. NATIONAL BANK OF OREGON
P.O. Box 3168
Portland, OR 97208
Contact: Marcia A. Bennett, VP and mgr., (503) 275-7346

Number of separate master trust clients: 4
Number of directed trust clients: 70
Master trust assets: $276 million
Directed trust assets: $565 million
Custodial employee benefit assets: $190 million
Total employee benefit assets: $965 million
Number of separate portfolios: 46
Average number of accounts per account supervisor: 15
Average number of portfolios per investment manager contact: 65
Accounting system utilized: Contractual settlement date, trade plus seven
Fail float credit provided: Yes
Short-term instruments used: Money market funds, master notes, commercial paper
Date short-term interest credited: Third business day of month for prior month's investment
Timeliness of reporting package: Statements: Fifth business day of month
Services provided: Performance measurement, portfolio analysis, portfolio review, participant recordkeeping, ERISA disclosure assistance, benefit disbursement
Policy for crediting dividends and interest: On specified pay date in credit to owner account
Fee structure: Based on combination of asset value and individual services

UNITED STATES TRUST COMPANY
45 Wall Street
New York, NY 10005
Contact: Robert Pagano, VP, (212) 806-3834

Number of separate master trust clients: 19
Number of directed trust clients: 133
Master trust assets: $7.8 billion
Directed trust assets: $6.4 billion
Custodial employee benefit assets: $3 billion
Total employee benefit assets: $17.2 billion
Number of separate portfolios: 465
Average number of accounts per account supervisor: 93; 30 relationships
Average number of portfolios per investment manager contact: 58
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: Yes
Short-term instruments used: STIF: Demand notes
Date short-term interest credited: Third business day of month
Timeliness of reporting package: Monthly - 7 business days
Services provided: Performance measurement, portfolio analysis, securities lending, ERISA disclosure assistance, benefit disbursement, index fund
Policy for crediting dividends and interest: On payable date in Fed funds
Fee structure: Based on individual services performed

VALLEY NATIONAL BANK OF ARIZONA
241 N. Central Avenue
P.O. Box 71
Phoenix, AZ 85001
Contact: Paul W. Knowles, VP, (602) 261-1545

Number of separate master trust clients: 1
Number of directed trust clients: 220
Master trust assets: $273 million
Directed trust assets: $305 million
Custodial employee benefit assets: $563 million
Total employee benefit assets: $867 million
Number of separate portfolios: 200
Average number of accounts per account supervisor: 90
Average number of portfolios per investment manager contact: 250
Accounting system utilized: Trade date (full accrual)
Fail float credit provided: No
Short-term instruments used: Short-term investment company, Federated, GMAC
Date short-term interest credited: First
Timeliness of reporting package: 15 days
Services provided: Performance measurement, portfolio analysis, portfolio review
Policy for crediting dividends and interest: On payable date
Fee structure: Based on combination of asset value and individual services

WELLS FARGO BANK
111 Sutter Street, 10th Floor
San Francisco, CA 94163
Contact: Alan Kizor, Sr. VP, (415) 399-7696

Number of separate master trust clients: 0
Number of directed trust clients: 700
Master trust assets: 0
Directed trust assets: $4.5 billion
Custodial employee benefit assets: $500 million
Total employee benefit assets: $5.2 billion
Number of separate portfolios: 1200
Average number of accounts per account supervisor: 175
Average number of portfolios per investment manager contact: 100
Accounting system utilized: Contractual settlement date
Fail float credit provided: No
Short-term instruments used: In-house money market type fund comprising commercial paper, acceptances, CDs, Treasuries, etc.
Date short-term interest credited: Last business day
Timeliness of reporting package: 1 week after period close
Services provided: Benefit disbursement, index fund, market inventory fund
Policy for crediting dividends and interest: On payable date; advanced by computer automated accounting system
Fee structure: Based on combination of asset value and individual services

Perspective On Investments

Why some plan sponsors invest in index funds

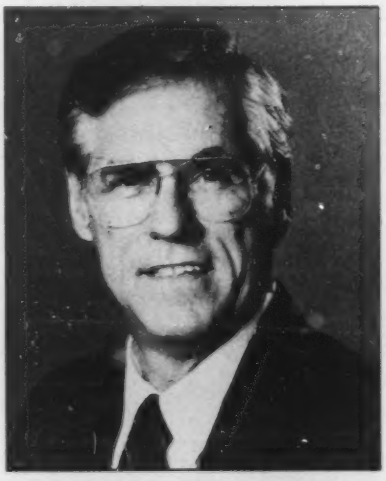
This column was written in early October 1987. Subsequent events in the financial markets may have changed the outlook for index funds. We elected not to change the substance of this column but to leave it as written.—Ed.

With approximately $200 billion of employee benefit plan monies now indexed, and with this passive pool growing in size each month, an ERISA fiduciary is compelled to examine the advantages of this investment alternative. Since Sec. 4.04(a)(1)(b) of ERISA requires that fiduciaries of employee benefit plans conduct themselves "under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use, in the conduct of an enterprise of a like character and with like aims," and since so many sponsors have now redeployed monies to this passive investing alternative, it behooves all fiduciaries to examine how adding the indexing strategy to their investment operations would impact their fund's risk/reward posture.

Ten years ago, in their treatise *Market Funds and Trust-Investment Law* (American Bar Foundation Research Journal), Professors Langbein and Posner (University of Chicago) said, "When market funds have become available in sufficient variety and their experience bears out their prospects, courts may one day conclude that it is imprudent for trustees to fail to use such vehicles. Their advantages seem decisive: at any given risk/return level, diversification is maximized and investment costs minimized. A trustee who declines to produce such advantages for the beneficiaries of his trust may in the future find his conduct difficult to justify."

Index funds are now available for any given level of risk deemed appropriate; they have proved that they can provide competitive rates of return and that productivity is available at a relatively low cost. Thus, as the professors predicted a decade ago, asset allocation policy reviews should include an examination of the index alternative to be fully defensible.

It was also ten years ago that Warren Buffett was quoted as having said, "investors . . . don't just buy and hold. Instead, many try to outwit their fellow investors in order to maximize their own proportion of corporate earnings. This thrashing about, obviously fruitless in the aggregate, has no impact on the equity coupon, but reduces the investor's portion of it because he incurs substantial frictional costs such as advisory fees and brokerage charges." Although Mr. Buffett, through Berkshire Hathaway, has distinguished himself both as a patient investor and an astute analyst, other less effective investors are increasingly embracing the indexing alternative because they have become convinced of the futility in attempting to add value through active investment operations, in part due to the "thrashing about" observed by Mr. Buffett.



by **EUGENE B. BURROUGHS**
Senior Advisor
Prudential Asset Management Co., Inc.
San Diego, Calif.

Responsible research reveals that, on a total return basis, most managers' equity portfolios have been outperformed in recent years by the S&P 500 (Table 1). Not all, just most. In addition to the high cost of frequent trading, a sponsor is vulnerable to other investors' disenchantment with that part of the market his manager has chosen to emphasize.

Although some managers have done an outstanding job during this time, the average plan sponsor has found it difficult to identify that manager who will provide superior performance *after* he is retained. The sponsor's problem is further complicated when, for good business reasons, he chooses to retain several managers.

Appeal of index funds

The index fund concept appeals to the pension sponsor not merely because it reduces the "substantial frictional cost" of the thrashing about referred to by Buffett but because it also reduces the high cost of switching managers. Investment consultants estimate that the cost of switching managers can run as high as 10 percent.

Thus many sponsors are coming to the conclusion that they should allocate a portion of their plan to an index fund, diversifying their common stock allocation between an index representing the systematic components of investment risk and an active manager(s) representing specific risk. By indexing a portion of a larger fund or the entire amount of a smaller fund, sponsors

Table 1 Comparison of Investment Returns

Period Ended May 31, 1987	S&P 500	Wilshire 5,000	Median Equity Manager
1 Year	20.9%	16.5%	13.9%
3 Years	29.4	27.8	24.5
5 Years	26.2	24.8	22.5
10 Years	17.1	17.8	16.0

Table 2 Top Twelve Holdings in the S&P 500 as of December 31, 1986

Stock	% of Portfolio
IBM	4.3%
Exxon	2.9
General Electric	2.3
AT&T	1.6
Royal Dutch	1.5
Dupont	1.2
General Motors	1.2
BellSouth	1.1
Amoco	1.0
Merck	1.0
Mobil	1.0
Philip Morris	1.0
% of Total	20.9%

Table 3 Sector Diversification of the S&P 500 as of December 31, 1986

Sector	% of Portfolio
Technology	14.9%
Consumer Staples	14.0
Consumer Discretionary	13.2
Energy	12.8
Utilities	11.5
Health	8.0
Finance	7.3
Durables	7.2
Materials & Processing	6.7
Transportation	2.3
Building	1.9

can assure themselves that no investment method or manager will prevent their funds from realizing their fair share of the return from indirect ownership in corporate America.

It is not surprising that the funds most heavily committed to indexing are the "megabucks" public funds: New York, California, Maryland, Minnesota, etc. Fiduciaries supervising these monies have undoubtedly concluded that because of their billions in stock ownership, they are "the market." Though much smaller in size, large corporate funds such as Ford, IBM, Exxon and the "baby Bells" are significant indexers also. Conspicious by their absence as indexers are the jointly-trusteed plans. However, if past management practices are an indication of the future, it is only a matter of time before the larger Taft-Hartleys embrace indexing as a reasonable alternative.

The ultimate endorsement of indexing is the decision by the federal government's recently-appointed group of overseers for the Civil Service Retirement System to provide to participants who choose to allocate a portion of their monies to common stocks only an index fund. If the federal government's endorsement is not enough, then one can additionally cite IBM's decision to invest passively 75 percent of its benefit fund. Those executives who have successfully mastered the computer have apparently concluded that although the monies accumulated in the plan are an asset, managing active managers has for them been a liability.

What index funds are

An index fund or account is comprised of securities which in the aggregate will produce a return replicating (or substantially replicating) a designated securities index. If certain proprietary techniques are added to the replicating process to achieve a premium return above the designated index, it is commonly referred to as "index-plus" or "enhanced indexed" investing.

Index funds are used by plan sponsors because of the perceived advantages of increased diversification, avoidance of manager risk, lower transaction costs, lower management fees and certainty in matching risk/reward tradeoffs. During the "adolescent" years of indexing, the index most frequently designated by sponsors for replicating has been the Standard & Poor's 500-Stock Index. Since the performance measurement community has traditionally used this index as the "bogey to beat," perhaps the sponsors have concluded, "if we can't beat it, let's join it."

The Standard & Poor's 500-Stock Index consists of a value-weighted average of 500 important stocks (as defined by Standard & Poor's). Since each stock in this index is weighted by the market value of its outstanding shares, and because it is comprised primarily of stocks with large capitalizations, the S&P 500 represents the results obtained in the overall stock market fairly well. The S&P 500 is, however, based on a sample of the stock market (largely NYSE stocks). By contrast, the Wilshire 5000 equity index reflects the performance of all U.S. common equity securities for which price data are readily available. Specifically, the Wilshire 5000 index tracks the returns of securities listed on the AMEX and OTC exchanges as well as NYSE securities. Consequently, compared to the S&P 500 index, the Wilshire index provides a broader gauge assessment of the overall performance of U.S. equities. The S&P 500 index outperformed the Wilshire 5000 index over the past one, three and five years, but underperformed over the longer ten-year span.

One of the compelling reasons that the S&P 500 has been a favor-

ite is because of its company and sector weightings (Tables 2 and 3). Sponsors have thus concluded that this index adequately reflects the market.

Early pioneers in the implementation of the academic research in indexing were William Fouse of Mellon Capital Management, Dean LeBaron of Batterymarch and Rex Sinquefield of Dimensional Fund Advisors. It is gratifying to note that both the "founders" and the "fad" they helped to create are continuing to thrive in the present marketplace. In the formative years of indexing, in the early '70s, most sponsors who embraced the "fad" did so more from intuitive convictions than from analysis. The index funds were new and no one could be assured as to the destiny of their returns. One could only hope that the technicians piloting the funds would in reality replicate the returns achieved by the passive indices.

The premium effect

Heretofore we have been aware that stock index funds often enjoyed a slight premium over the referenced index through securities lending operations and activities related to tender offers involving indexed securities. We also have been made aware by the performance measurer that sponsors participating in the S&P 500 have generally enjoyed a higher relative return *and* lower relative variability when compared to active managers. Variability of quarterly returns of the S&P 500 for five years ended December 31, 1986, was 15.5 percent versus the median manager's variability of 17.7 percent. Since the S&P 500 achieved +19.9 percent return (outperforming 59 percent of the equity database), the S&P 500 provided both the sought-after characteristics of high relative return and lesser attendant risk.

It now appears, from research recently shared publicly by the BARRA consulting firm, that those sponsors who allocated their monies to replicate the S&P 500 received a premium return over other investors who invested in similar stocks. The significant difference was simply that these similar stocks were not included in the S&P 500 Index. According to BARRA, "Stocks included in the S&P 500-Stock Index have outperformed similar stocks not included in the index by +3.25 percentage points a year since 1980." Reasons postulated for the premium return are:

- the demand created by the growth in indexing;
- the attraction of foreign investors to the well-known names included in the index; and
- the increasing use of index futures.

Thus, what had been a defensive tactical reallocation to eliminate investment management risk has turned out to be a "value adding" strategy. The excess return achieved by participants in S&P 500 index funds was most likely also accompanied by lower relative management fees. Occasionally anomalies do exist in the markets; the heightened demand for the stocks included in the index provided a "free lunch" at least for the 1980-1986 period. If a bear market ensues, however, sponsors fleeing the index accounts may place selling pressures on these stocks resulting in larger negative returns than from similar stocks.

Source of comfort

If imitation is the sincerest form of flattery, then replication may be the greatest source of comfort, especially for the sponsor who suddenly has found himself victimized by discontinuity in the management of a portion or all of his funds. Until the advent of the index fund alternative, the sponsor was entirely vulnerable to a significant change in personnel assigned to his account, to the not-so-subtle changes in investment philsophy, to the dissolution of the investment management firm or to poor internal management controls within the organization itself. In addition to these concerns, a sponsor may find that his manager has committed all his funds to a specific homogeneous group of stocks which is not selling at a premium. Furthermore, a massive redeployment of stocks to cash reserves and back to stocks can be ill-timed and unnecessarily expose assets with long-term objectives to short-term realized losses.

In resolving their fiduciary responsibility, pension fund sponsors are also looking to indexing to help them reduce their administrative costs. The quest for cost control is also a plea for passivity and elimination of the high cost of switching managers. The relative ease of entry into and exit from the market with an index fund has helped those sponsors concerned with reducing costs. The use of index funds also facilitates periodic adjustments to the stock/bond ratio without interrupting the discretionary management process exercised by common stock counselors.

One of the redeeming features of indexing is that such broad diversification and continuing commitment to the market enable your monies to participate in upward valuation surprises, whenever they may occur. Indexing exploits the randomness of stock prices; indexing and randomness skip along together over time oblivious to shorter cyclical revaluations, choosing instead to capture longer-term value enhancements.

Commitment to mediocrity?

Many plan sponsors dismiss the indexing alternative as a commitment to mediocrity. These sponsors must select investment managers who are successful in adding value. The sponsor is competing with himself, while the managers are competing with other managers. The managers' selections must add value above the market alternative. Choosing successful managers and successfully managing portfolios are possible, but each supervising group must assess their probability for success.

One of the pitfalls of indexing is the plan sponsor's lack of control over the makeup of any given index. The sponsors of the index control the destiny of its makeup: for reasons of their own, significant changes can be made. For instance, an analysis performed by Salomon Bros. determined that a major restructuring of the S&P 500 some years ago (46 additions, 46 deletions) resulted in the additions achieving +3.7 percent while those deleted achieved +32.6 percent over the ensuing two years. Those portfolios who had chosen to replicate the index were subjected to the results of a decision made out of their control.

Index strategies are also being applied to foreign equities. Although foreign stock markets are considered less efficient than our markets, and thus theoretically more exploitable from specific research, they have other characteris-

Investment column

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tics that encourage an index approach. Liquidity constraints impede timely reallocation, transaction costs are high, and the risk of losing the non-covariant advantage through manager selection error are all characteristics that encourage sponsors to embrace indexing, at least in part, when investing overseas.

With the explosive growth in indexing, it is not surprising that many financial institutions now provide a variety of indexed and otherwise passively supervised portfolios. According to a recently-published listing, the ten organizations supervising the largest amounts of indexed assets are Alliance Capital Management, American National Bank and Trust, Bankers Trust, Dimensional Fund Advisors, Mellon Capital Management, Northern Trust, Prudential Asset Management, State Street Bank and Trust, Wells Fargo Investment Advisors and Wilshire Asset Management. Small employee benefit plans and individuals can index through the First Index Investment Trust mutual fund offered by the Vanguard Group (Valley Forge, Pa.) to replicate the returns of the S&P 500. The Bench Blue-Chip Portfolio fund (New Jersey) replicates the Dow Jones Industrial Average.

The future

Will sponsors continue to redeploy increasing monies to indexing? That will depend upon the future success (or unsuccess) of active managers to add value from trading securities. The genesis for the flurry of stock indexing in 1986 could very well have been managers' very poor relative performance in 1984 when three-fourths of the managers failed to match the return of the S&P 500. Sponsors reflected on these dismal results, evaluated indexing as a viable alternative, and pushed for committee approval in 1985, implementing their redeployment to passive strategies in 1986.

Now that the indexing "snowball" is rolling, active management will have to provide value above passive results to reverse the trend. It just may take a bear market to provide the environment for the managers to regain the competitive edge. □

Cases & Rulings

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an independent election to receive coverage. If a qualified beneficiary who is either a covered employee or the spouse of a covered employee makes an election to receive COBRA continuation coverage on behalf of another qualified beneficiary, the election shall be binding on the other qualified beneficiary. However, one spouse cannot effectively decline COBRA coverage on behalf of another spouse.

23. Id. at Q & A 41.

24. OBRA Sec. 9501.

25. Id. at Q & A 40; Q & A 41. Coverage provided to a qualified beneficiary after a qualifying event other than as required by COBRA (e.g., as a result of state or local law, or plan procedure) will not extend the maximum coverage period, which continues to date from the qualifying event. Alternative coverage that satisfies the requirements of COBRA continuation coverage (e.g., provision of all benefits for a limited period at no charge) can be credited toward satisfaction of the 18- or 36-month maximum coverage period. However, if the alternative coverage fails to satisfy all the requirements for COBRA, the group health plan will not be in compliance with COBRA unless a qualified beneficiary is also offered the opportunity to elect COBRA continuation coverage.

26. Id. at Q & A 48. However, payment made to the plan by a later date also is considered as being made timely if either (i) under the terms of the plan, covered employees or qualified beneficiaries are allowed until that later date to pay for their coverage during the period, or (ii) under the terms of an arrangement between the employer and an insurance company or HMO, the employer or plan is allowed until that later date to pay for coverage of similarly situated employees during that period.

27. Id. at Q & A 45.

28. Id. at Q & A 9(a).

29. Id. at Q & A 9(b) and (c). In determining the number of its employees, an employer shall include all full-time and part-time employees, including self-employed individuals (within the meaning of Section 401(c)(1) of the Code). An employer also shall treat as employees for this purpose all agents and independent contractors (including their employees, agents and independent contractors), and all directors (in the case of a corporation), but only if such individuals are eligible to participate in a group health plan maintained by the employer.

30. COBRA Sec. 10001(e)(1).

31. COBRA Sec. 10001(e)(2).

32. 52 Fed. Reg. 22716, *supra* note 2, at Q & A 12.

33. Id. at Q & A 6.

34. Id.

Twelve questions

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7. What is your compound annual rate of return for the last five years? Compound annual rate of return numbers can be very misleading, so I recommend that before you begin comparing them, first find a consultant to assist you with your money manager search.

In enlisting his services, you are gaining the experience and resources of a whole team of professionals who make their living visiting various money management firms to "kick the tires." They audit the books to assure that reported track records are factual and representative of all accounts, not just a handful of the best performing. They do the due diligence on a money manager that you simply can't. Any managers brought to your attention by a consultant will already have been screened and you'll know their reported compound annual rate of return is accurate.

Once you have enlisted the services of a consultant, he can help you establish a minimum and realistic annual rate of return that is acceptable to you so it can be given to a money manager as a target. This minimum must be carefully thought out in light of what has been produced historically by the S & P, the Dow Jones stocks, the OTC indices and the various bond indicators.

Once you've established this minimum annual rate of return, decide what investment style would best suit you to achieve that target.

A pure equity account might get you to your target sooner than a bond account, but it entails greater fluctuations and perhaps more anxiety than you're willing to accept.

Once these decisions are made, you are ready to have your consultant introduce you to a few money managers who can get the job done within the context of your guidelines. Your consultant can help you compare the compound rates of return of various money managers with the proper indices.

These compound rates of return should extend back to the last down market to determine how a manager performs in adverse market conditions. When projecting these figures, take into consideration the difference in the world economy between now and 10 years ago.

Current Issues In Plan Design

A plan sponsor's approach to AIDS

During the past year there has been heated talk about the effect of AIDS on the financial security of health plans. Because much of the talk reflects fears and myths about an illness which was unknown just seven years ago, and because the media continue to focus on AIDS and its victims, health plan sponsors are justifiably concerned about the potentially adverse financial effects AIDS many have on their health plans. Plan sponsors have generally responded in one of two ways: an "ostrich" approach—it cannot happen to us—or a "running scared" approach—we should cut benefits to the bone.

A more sensible approach, however, is to develop a formal benefits strategy that addresses aspects common to all catastrophic claims. This strategy can help to target cost control mechanisms which are geared toward those small number of claims that may consume the largest share of the health care dollar. Catastrophic cases—such as leukemia, brain injuries and AIDS—have the potential of becoming both costly and long-lasting.

Health plan sponsors should take two steps in formulating an approach to AIDS. First, separate fact from fiction. Take the time and effort to learn about the disease and how it is contracted and treated. Then, use this knowledge as a basis for analyzing the work force's particular needs and developing the appropriate benefits strategy.

It's not going away

The first diagnosed case of AIDS—which is caused by one of two known viruses that enter the bloodstream either through sexual contact, contaminated hypodermic needles or contaminated blood—was reported in 1981. Since then, there have been more than 40,000 cases of AIDS reported. The number of AIDS cases appears small compared to reports of other catastrophic illnesses. For instance, there were 40,000 organ transplants in 1986 and over 900,000 cases of cancer diagnosed last year. What is unique about AIDS, however, is the rapid spread of this disease. In a matter of six years, an estimated 1.5 million citizens have been identified as being infected by the virus. However, although infected, not everyone will develop the disease. Inadequate experience with AIDS prevents accurate predictions. There are estimates that between five and 70 percent of those infected will go on to develop either AIDS Related Complex (ARC)—a less severe disease which is often the precursor to AIDS—or AIDS.

By 1991, it's projected that 324,000 Americans will contract AIDS. Whether they are male or female, most of today's AIDS victims are young, usually 20 to 40 years of age (see Table 1). Because AIDS continues to attack the young, productive working population, the effects of the illness will be increasingly felt by plan sponsors. And, because the AIDS viruses have an incubation period of six months to five years, there is no way to predict who will fall ill. This uncertainty makes it particularly difficult for health plans to estimate the impact AIDS will have.

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As it spreads through the population, AIDS is also crossing geographic boundaries. AIDS was once thought to be the burden of major metropolitan regions in California, New York, Texas and Florida. Increasingly, though, cases of AIDS are now beginning to show up in all 50 states. While California, New York and Texas report the greatest number of AIDS cases, states such as Alabama, Oklahoma, Wisconsin and West Virginia are experiencing the highest percentage increase in cases (see Table 2). These numbers suggest that, nationwide, health plans may soon have to respond to what was once thought of as an isolated disease.

Reports of claims in excess of $100,000 for AIDS patients have alarmed many plan sponsors. An initial Centers for Disease Control (CDC) report based on the first 10,000 AIDS cases set hospital costs at more than $140,000 per case. However, another study conducted jointly by the American Council of Life Insurance and the Health Insurance Association of America, and based on more recent data, revealed an average AIDS claim of $36,160. Within such a short span of time, what has happened to affect the cost of care so dramatically? One hypothesis is that health insurers and health plans have adopted cost effective approaches to manage AIDS cases, identifying lower cost alternatives to expensive hospital stays, thus reducing the largest cost component of care for AIDS cases.

Armed with current knowledge

Table 1 **Age of AIDS Patients at Diagnosis**

Age Group	Cumulative Number (%) October 5, 1987	
Under 5	507	(1%)
5 - 12	76	(0%)
13 - 19	170	(0%)
20 - 29	8,861	(21%)
30 - 39	19,720	(47%)
40 - 49	8,808	(21%)
Over 49	4,211	(10%)
Total (% of all cases)	42,354	(100%)

Cases reported to Centers for Disease Control, according to AIDS Weekly Surveillance Reports, Center for Infectious Diseases, Centers for Disease Control.

about the disease, plan sponsors can pick a strategy that best meets a plan's individual needs. The objective should be to coordinate and organize health care resources that address an AIDS patient's specific medical problems while minimizing a plan's financial risk. Sponsors generally consider one of three options to control medical costs: redesign the health plan, change plan administration or institute cost management techniques. Plan redesign may include reductions in the lifetime maximum, coverage exclusions or cutbacks in benefits. Changes in administration that limit eligibility by medically screening new members is another approach. The third option involves implementing a managed care approach that assures the most effective use of available health care dollars.

Plan redesign that reduces or cuts those benefits that are most adversely affected by potential losses may seem to be the most immediate solution to reducing financial risk. However, a reduction in the lifetime maximum may not control medical costs that fall below the maximum. Several claims for $50,000 instead of $100,000 may still put a plan at financial risk. Because recent AIDS studies suggest the cost of many AIDS cases range from $30,000 to $50,000, a lowered lifetime maximum may not eliminate this liability. Second, limiting or excluding benefits for specific medical conditions such as infectious diseases may become an administrative nightmare. How will the plan office go about compiling a list of all infectious diseases for a claim processor to follow? Such restrictions limit coverage for the entire group. Will the child who catches measles at school also be excluded? And, will restrictions on coverage for AIDS also limit coverage for other catastrophic and potentially costly conditions such as heart disease, cancer, birth defects, head injuries or renal disease? Also, exclusions targeted specifically towards AIDS-related illnesses may be even more difficult to administer since early symptoms of AIDS such as tiredness, loss of appetite, diarrhea or swollen glands are symptoms that are common to other illnesses as well.

"Overall, the number of catastrophic claims is usually a small percentage of total claims. It has been estimated that as few as three percent of all insured lives consume 40 percent of health care dollars."

A plan sponsor might also consider changing the plan's administrative guidelines to include screening devices that test participants for the AIDS antibodies. Some insurance carriers have been requiring AIDS antibody tests before issuing individual health insurance policies. It should be noted, however, that the use of antibody tests is highly controversial. Current screening tests do not diagnose AIDS. They only identify individuals who have been exposed to the AIDS virus. Since symptoms of the disease may not show up for several years, the tests cannot predict future illness or even the eventual presence of the AIDS virus. Also, many public interest groups representing those who are at risk have protested the use of antibody tests as a form of discrimination against individuals in high-risk categories. California and Washington, D.C. supported this position by passing legislation or regulations that restrict insurance carriers, unions and employers from using these tests for certain insurance and employment purposes. Self-insured groups interested in screening tests should be made aware that this option is both controversial and wrought with complicated legal issues.

Managed care

Overall, the number of catastrophic claims is usually a small percentage of total claims. It has been estimated that as few as three percent of all insured lives consume 40 percent of health care dollars. A coordinated effort to organize health care resources, addressing the specific needs of a catastrophic case, can minimize financial risk while causing the least disruption in plan design. Health plan administrators looking for cost controls are turning to health care cost management techniques that focus on case management of catastrophic illnesses. The managed care approach may foster the most effective use of health benefit dollars.

Managed care involves devoting individual attention to the particular patient and his or her disease or medical condition, and examining all available treatment options. A managed approach for AIDS patients begins with early identification of the disease. Individual case management is then used to assist in treatment decisions, such as the need for hospitalization and the possibility of using home and hospice care.

Individual case management is a process by which a case coordinator, usually a registered nurse, works with the patient, the family and attending medical professionals to assure the most appropriate, cost effective, coordinated system of care. Case management can reduce hospital costs by arranging for alternative outpatient care in the patient's home, in an extended care facility, or in special facilities such as rehabilitation centers and hos-

Table 2

Where AIDS Is Spreading Fastest

AIDS Cases by State*	Year Ending October 5, 1986	Year Ending October 5, 1987	Share of U.S. Total	Increase (10/5/86 to 10/5/87)
Top Five States with Highest Number of AIDS Cases:				
1. California	2798	3790	(22.9%)	35.4%
2. New York	3483	3751	(22.7%)	8.3%
3. Texas	678	1345	(8.2%)	98.8%
4. Florida	764	1201	(7.3%)	57.2%
5. New Jersey	719	868	(5.3%)	20.8%
Top Five States with Highest Percentage Increase of AIDS Cases:				
1. Alabama	25	98	(0.6%)	276.9%
2. Oklahoma	34	95	(0.6%)	179.4%
3. Wisconsin	34	82	(0.5%)	141.2%
4. West Virginia	8	19	(0.1%)	137.5%
5. Oregon	56	114	(0.7%)	103.6%

*Including District of Columbia, according to AIDS Weekly Surveillance Reports, United States AIDS Program, Center for Infectious Diseases, Centers for Disease Control.

pices. In many circumstances, a comprehensive range of services, such as skilled nursing care, intravenous drug therapy, physical therapy, medication or homemaker services, can be administered to a patient in his or her home. When a patient can be treated at home, he or she benefits from the comfort and convenience of remaining out of the hospital. Avoiding hospitalization is particularly important for AIDS patients because hospitalization may be required with increasing frequency as symptoms become more severe.

Case management is usually provided as an added benefit on an as-needed basis. The patient is free to refuse or accept case management. While the cost for AIDS case management is approximately $2,000 to $6,000 per case, the savings can be substantial. One Miami hospital has produced major savings through their AIDS case management program by reducing the number of hospitalizations to an average of 2.5 per patient, with an average length of stay of approximately 11 days per hospitalization. In comparison, before case management, the average AIDS patient was hospitalized an average of three times, each hospitalization lasting just less than 25 days.

As mentioned earlier, a key component of the managed care approach is home and hospice care.

"One Miami hospital has produced major savings through their AIDS case management program by reducing the number of hospitalizations to an average of 2.5 per patient, with an average length of stay of approximately 11 days per hospitalization."

Home care and hospice coverage are less expensive and certainly more comfortable than hospital care for many patients. The cost of care for an AIDS patient in a San Francisco hospice is $94 per day as opposed to a national average of more than $800 a day in a hospital.

The individual case management approach, emphasizing alternative settings, may require some benefit programs to waive their minimum hospital stay provision to allow patients access to less costly alternative care from the onset. A three-day hospital stay requirement prior to home or hospice care may add unnecessarily to plan costs.

To further reduce the cost of hospitalizations, an individual case management program can be paired with a pre-hospital admission certification program. The benefits are twofold. First, precertification provides early identification of potentially high cost cases, triggering case management. And second, the plan is assured that hospital care is delivered only when medically indicated.

Of the three options described here—plan redesign, changes in plan administration and managed care—only the managed care approach can be applied to all catastrophic cases. It seems to assure early and timely coordination of treatment options and provides assistance to patients and caregivers in making informed decisions. It also provides a support system during the time of greatest need.

As plan sponsors will be increasingly forced to find answers to difficult questions about AIDS and its impact on a plan's financial security, they must first examine all facts about AIDS and explore these three options in order to coordinate a benefits strategy that suits the particular needs of the work force involved. □

For additional information about case management, see "Current Issues in Plan Design: Individual case management provides assistance in serious illnesses," Pension World, February 1987, p. 52.—Ed.